FURUNO

MARINE DGPS/WAAS NAVIGATOR

Model GP-37

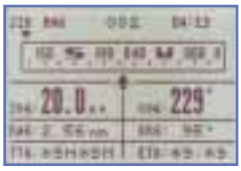
- **Automatic or manual selection of either WAAS or DGPS**
- **4.5" Silver Bright LCD display**
- **Multiple display modes to suit a variety of navigational requirements**
- **Up to 999 waypoints, 50 routes and 1,000 track points**
- **One-touch waypoint entry**
- **Customizable NavData Displays**
- **Track Back feature stores waypoints at user defined intervals for early trace-back cruise**
- **Waypoint & Route upload/download through RS-232C port**

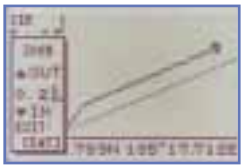
The GP-37 is an advanced GPS navigator designed for coastal ships, fishing boats and pleasure craft. It is equipped with a WAAS receiver and a DGPS receiver as standard supply. The powerful processor performs high-speed processing, position fixing and augmentation. It utilizes both WAAS and differential radio beacon correction methods.

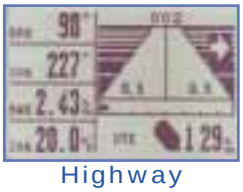
This compact and cost-effective unit offers extremely accurate position fixes - 10 m for the basic GPS, 3 m where a WAAS service is available and 5 m with DGPS. It should be noted that DGPS is more reliable and accurate, as the WAAS system is still currently under development. There is no guarantee of accuracy, integrity, continuity or availability of the WAAS signal. For that reason, the GP-37 runs with DGPS as the default setting in auto selection mode. In this mode, if the DGPS signal can not be received for any reason, the WAAS mode is automatically selected. Manual setting is also available.

The Display modes include Plotter, two Customizable displays, Steering, Highway and Speedometer Mode. The Steering Display mode provides an intuitive indication of course to steer and cross-track-error (XTE). The Customizable display allows you to select the display layout so the navigation data you are interested in is displayed in large characters.

Speedometer


Steering


Plotter


Highway

Customizable display

WAAS (Wide Area Augmentation System)

WAAS is a GPS navigation system with a differential correction by means of geostationary satellites. The US FAA has been testing this system and expect more field tests in 2003. Similar systems, using Satellite-Based Augmentation Systems (SBAS), are under development in Japan (MSAS: MSAT Satellite-based Augmentation System) and Europe (EGNOS: European Geostationary Navigation Overlay System). They are said to be fully interoperable and compatible. MSAS and EGNOS are expected to become fully operated in 2004 or after.
As the WAAS utilizes the same frequency as the GPS, a single antenna can receive GPS and WAAS signals. Currently two Inmarsat GEO satellites are available, i.e., AOR-W and POR. Major contributors of an error in a single frequency GPS system is receiver clock drift and signal delays by refraction. The WAAS reference stations on the earth monitor the GPS constellation and route GPS error data to the satellites via the master earth station. The Inmarsat or communication satellite broadcasts the differential corrections to marine or aviation users.


For more info, visit the FAA web at http://gps.faa.gov

LLOYD'S REGISTER QUALITY ASSURANCE ISO9001
UKAS QUALITY MANAGEMENT 001

The future today with FURUNO's electronics technology.

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Catalogue No. N-851

SPECIFICATIONS OF GP-37

GPS/WAAS

Receiver Type	GPS: Twelve discrete channels, C/A code, all-in-view. WAAS receiver: standard fitted in Display Unit
Receive Frequency	L1 (1575.42 MHz)
Time to First Fix	12 seconds typical (Warm start)
Tracking Velocity	999 knots
Geodetic Systems	WGS-84 (and others)

DGPS

Reference Stations	Automatic or manual selection (All DGPS stations in the world are in memory)
Frequency Range	283.5 - 325.0 kHz (all ITU regions), 0.5 kHz steps
Coverage	200 km approx from a reference station
Modulation and format	Minimum Shift Keying (MSK) in RTCM SC104 format

Accuracy

GPS: 10 m (95%)
DGPS: 5 m (95%)
WAAS: 3 m (95%)

Display

4.5" diagonal 95(W) x 60(H) mm LCD, 120 x 64 pixels

Display Modes

Plotter, Highway, Steering Display, Nav Data Display and 2 Customizable Display Modes

Memory Capacity

1,000 ship's track points, 999 waypoints with comments
50 routes, 30 waypoints/route

Alarms

Arrival, Anchor watch, XTE, Speed, WAAS/DGPS, Time, Trip, Odometer

Language

English, Spanish, French, German, Dutch, Italian, Portuguese, Vietnamese, Japanese

Interface

Output (NMEA 0183 ver 1.5/2.0):
AAM, APB, BOD, BWC, GGA, GLL, GTD, RMA, RMB, RMC, VTG, XTE, ZDA
Input:
YMWPL (YEOMAN wpt data in NMEA 0183)
DGPS data in RTCM SC104 ver 2.1

ENVIRONMENT (IEC 60945 test method)

Temperature	Display unit:	-15°C to +55°C
	Antenna unit:	-25°C to +70°C
Waterproofing	Display unit:	IPX5 (IEC 60529), CFR46 (USCG)
	Antenna unit:	IPX6 (IEC 60529)

POWER SUPPLY

12-24 VDC, 0.34 - 0.17 A

EQUIPMENT LIST

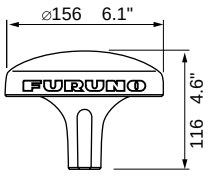
Standard

1.	Display unit	1 unit
2.	GPA-019 Loop antenna (H-field) with 10 m cable	1 set
3.	Installation Materials and Spare Parts	1 set

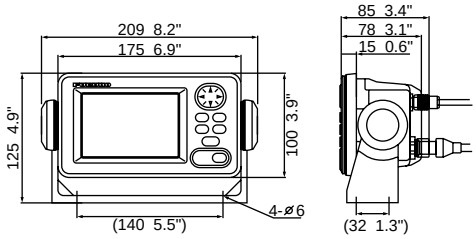
Option

1. Antenna base
   CP20-01111 (Pipe mount), No. 13-QA330 (Deck mount), No. 13-QA310 (Offset bracket), No. 13-RC5160 (Handrail mount)
2. Flush mount kit F type (OP20-18/29) or S type (OP20-17)

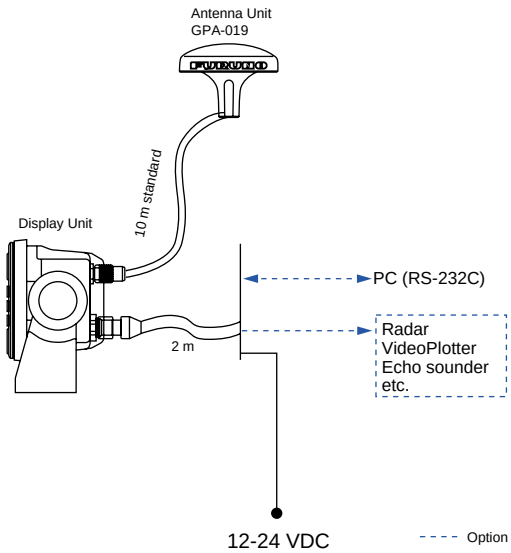
Antenna Unit 0.3 kg 10.6 oz
GPA-019 Loop Ant (H-field)



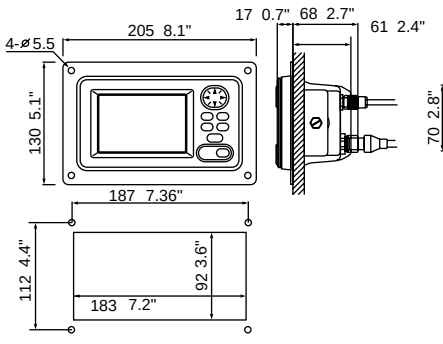
Display Unit 0.68 kg 1.5 lb



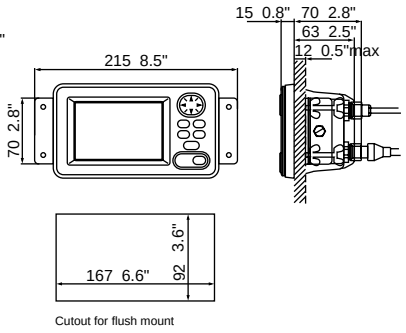
Interconnection Diagram



Flush mount kit F-type



Flush mount kit S-type



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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